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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/043,002	01/09/2002	Antonio Canova	N8125 DBP	7688

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Intellectual Property Law  
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EXAMINER

NORRIS, JEREMY C

ART UNIT PAPER NUMBER

2827

DATE MAILED: 12/19/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/043,002

Applicant(s)

CANOVA, ANTONIO

Examiner

Jeremy C. Norris

Art Unit

2827

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 4-15-02.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☒ Certified copies of the priority documents have been received in Application No. 09/374,971.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

**DETAILED ACTION**

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) do not apply to the examination of this application as the application being examined was not (1) filed on or after November 29, 2000, or (2) voluntarily published under 35 U.S.C. 122(b). Therefore, this application is examined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

Claims 1, 2, 6 and 7 are rejected under 35 U.S.C. 102(b) as being anticipated by US 5,373,111, granted to McClure et al. (hereafter McClure).

McClure discloses, a circuit apparatus, comprising: a laminar support; a conductive track on the laminar support; an auxiliary conductive element (bond pad) electrically connected to the conductive track, wherein the auxiliary conductive element is applied by means of an apparatus for applying SMD components (vacuum-operated pick-and-place, see col. 1, lines 15 to col. 2, line 20) [claim 1] wherein the auxiliary conductive element is electrically connected to the laminar support by means of an adhesive and soldered thereto by a wave soldering procedure (see col. 1, lines 50-55)

[claim 2], wherein the auxiliary conductive element includes a metal pad [claim 6], wherein the auxiliary conductive element is electrically connected to the conductive track by a solder alloy; and the auxiliary conductive element includes a metal with high electrical conductivity (aluminum), and the auxiliary conductive element is coated with a metallic layer (copper) with both high wettability and a melting temperature higher than the melting temperature of the solder alloy [claim 7].

Claims 8-10 are rejected under 35 U.S.C. 102(e) as being anticipated by US 6,350,957, granted to Shingai et al (hereafter Shingai).

Shingai discloses, referring to figures 3, 4 and 7, a flexible material strip (1), comprising: a plurality of auxiliary conductive elements (4); and a plurality of adjacent recesses, wherein each of the recesses houses a respective auxiliary conductive element [claim 8], wherein the auxiliary conductive element includes a metal pad [claim 9], wherein each auxiliary conductive element is produced from a metal (4b) with high electrical conductivity and coated with a metallic layer (4a) with both a wettability and a melting temperature sufficient for a soldering process [claim 10].

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over McClure and Shingai.

McClure discloses the claimed invention as described above with respect to claim 1, except McClure does not specifically state that the solder is a cream solder. However, it would have been obvious, to one having ordinary skill in the art, at the time of invention, to use a cream solder in the invention of McClure as cream solder is a solder variant well known in the art as evidenced by Shingai (see col. 1, lines 65 – col. 2, line 5). Moreover, it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416.

Claims 4 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over McClure in view of US 5,461,202, granted to Sera et al (hereafter Sera).

McClure discloses the claimed invention as described above with respect to claim 1, except McClure is silent regarding the particulars of the laminar support. Sera teaches, referring to figures 1(a)-(c), a laminar support (1) that includes a first face a second face, and a thickness, the first face exhibits a plurality of auxiliary conductive elements (5a) and a plurality of SMD electronic components (6, one shown, a plurality referred to), the second face exhibits a plurality of electronic components (7, one shown, a plurality referred to) furnished with legs, and the legs pass through the thickness of the laminar support [claim 4]. Therefore, it would have been obvious, to one having ordinary skill in the art, at the time of invention, to use the laminar support taught by Sera in the invention of McClure. The motivation for doing so would have been to provide a circuit board that was both physically flexible as well as flexible regarding the types of components it could receive. Furthermore, it is clear that the

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invention of McClure, as modified by Sera discloses that the auxiliary conductive elements are mutually identical [claim 5].

### **Conclusion**

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.


US 6,108,210	Chung,
US 6,323,440	Maruyama et al.,
US 6,457,234	Edelstein et al..

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeremy C. Norris whose telephone number is 703-306-5737. The examiner can normally be reached on Mon.-Th., 9AM - 6:30 PM and alt. Fri. 9AM-5:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David L. Talbott can be reached on 703-305-9883. The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-0725 for regular communications and 703-308-0725 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

JCSN  
December 14, 2002

  
DAVID L. TALBOTT  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2800